Academic Year (2022-23)

Year: B. Tech

Program: B. Tech. (Computer Engg.)

Max. Marks: 75

Semester: VII

Subject: Predictive Modelling

Time: 10:30 am to 1:30 pm

Date:06/01/2023

Duration: 3 Hours

REGULAR EXAMINATION

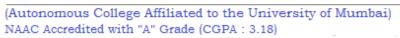
Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover page of the Answer Book, which is provided for their use.

- (1) This question paper contains 2 pages.
- (2) All Questions are Compulsory.
- (3) All questions carry equal marks.
- (4) Answer to each new question is to be started on a fresh page.
- (5) Figures in the brackets on the right indicate full marks.
- (6) Assume suitable data wherever required, but justify it.
- (7) Draw the neat labelled diagrams, wherever necessary.

Question No.		Max. Marks
Q1 (a)	Explain in detail ANY TWO metrics for Model Assessment.	[05]
Q1 (b)	i. Justify which predictive model is appropriate for Credit Risk Case Study. Assume relevant input data.	[05]
	ii.Explain Chi-Square Tests of Association in detail. OR	[05]
	i.Explain the role of Ensemble Modelling in Predictions. Illustrate with an example.	[05]
	ii.Describe the SEMMA palette in SAS.	[05]
Q2 (a)	Describe and compare the models generated by DMNeural, AutoNeural and Dmine Regression. OR	[10]
	Describe and demonstrate the steps in building decision trees with appropriate example.	[10]
Q2 (b)	Explain Iteration Plot with an example.	[05]
Q3 (a)	Explain kurtosis and its significance.	[05]



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Q3 (b)	i. Explain the steps in SAS with relevant dataset to examine data distribution.	[05]
	ii. Explain are the metrics to measure the central tendency of data.	[05]
	OR	
	i. Explain Collinearity with an example.	[05]
	ii. Explain Confidence Interval for the Mean with relevant example. What does	[05]
	the CI of mean signify about the dataset?	
Q4 (a)	What is the purpose of Hypothesis testing? Explain how t-test can be performed	[08]
	in SAS and what inference can be made from it?	
	OR	
	i. Explain Multiple Logistic Regression with an example.	[04]
	ii. Illustrate with example box plot and Whisker plot.	[04]
Q4 (b)	Explain Correlation Analysis in detail with relevant example.	[07]
		[07]
Q5	Explain briefly [ANY THREE].	
	i. Boosting	[05]
	ii. Principal Component Analysis	[05]
	iii. Overfitting, Underfitting and Generalization	[05]
1	iv.Skewness	[05]
	IV.Skewness	[03]